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# Memorandum

**To:** **LaDonna Turner, Site Assessment Manager**
**Technical and Enforcement Branch**
**U.S. Environmental Protection Agency, Region 6**

**From:** **Dana Bahar, Manager, Superfund Oversight Section**
**Ground Water Quality Bureau, New Mexico Environment Department.**

**Date:** **September 10, 2009**

**Subject:** **Pre-CERCLIS Screening Assessment of Roundy Shaft Mine, McKinley County, New Mexico: Further action under CERCLA recommended**

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| **Site name** | Roundy Shaft Mine | | | | |
| **City** | not applicable | **State** | New Mexico | **Zip code** | not applicable |
| **County** | McKinley | | | | |
| **Latitude** | 35° 19’ 27.65” | **Longitude** | 107° 50’ 00.63” | | |

**Site physical description:** The Roundy Shaft Mine currently is comprised of 2 open shafts, a concrete pad, and scattered limestone rock in an area south of Haystack Road. The Site borders the Piedre Trieste Mine.

**Site identification:** Potential alluvial ground water contamination within the Grants Mineral Belt was identified because background standards established for the contaminants of concern for ongoing remedial action associated with the Homestake Mining Company NPL site (CERCLIS NMD0007860935) are generally higher than Maximum Contaminant Levels (MCLs). NMED conducted sampling of private residential wells in subdivisions located in the vicinity of the HMC site, and found that the majority had one or more contaminant concentrations exceeding MCLs.

**Site summary:** Observations made during NMED’s Site reconnaissance are shown on the accompanying figures. The open shafts are unfenced; the highest radioactivity reading at one shaft was 102 counts per second (cps; background is presumed to be 15—40 cps from measurements taken at nearby sites). Limestone rock on the surface nearby was measured at 444 cps; other limestone waste rock piles emit lesser levels of

radioactivity. Contamination of vicinity soils and surface drainages by precipitative erosion and wind dispersion comprise the primary contaminant pathways that may be associated with this site. Additionally, site runoff of contaminated wastes may impact ground water quality either through seepage through alluvium or by direct entry to the subsurface via the open shafts.

**Targets:** The closest residence to the Site is located off of Haystack Road, approximately 0.80 air-miles to the northwest, from which another residence is visible further to the west. Residences also are located near the junction of State Hwy. 605 and 509, approximately 3.3 air-miles northeast of the Site. Other potential targets may include cattle and wildlife.

Closest well sampled to date: livestock well SMC-22 (0.44 air-miles; 48.2 µg/l total uranium in 2009 sampling).

**Site ownership and Potentially Responsible Parties:** Surface rights reportedly are private. Todilto Exploration and Development Company reportedly last operated the mine in 1981, using shaft as a vent for the Piedre Trieste mine.

**File review:** NMED staff reviewed the following files:

- Database compiled by Mining and Minerals Division of the New Mexico Energy, Minerals, and Natural Resources Department (07/20/2007).
- Anderson, Orin J., 1980. "Abandoned or inactive uranium mines in New Mexico".
- McLemore, Virginia T. and William L. Chenoweth, 1991. "Uranium mines and deposits in the Grants district, Cibola and McKinley Counties, New Mexico." New Mexico Bureau of Mines and Mineral Resources Open-file report 353.
- Rappaport, Linda, "Uranium deposits of the Poison Canyon ore trend, Grants District," in "Geology and technology of the Grants Uranium Region, 1963. State Bureau of Mines and Mineral Resources.
- U.S. Geological Survey, 1997. "Gallup quadrangle NURE HSSR study." OFR-97-492.

**Site reconnaissance:** NMED staff conducted a Site reconnaissance on July 2, 2009.

**Recommendation:** A release of CERCLA hazardous substances has been documented at the site. NMED recommends further investigation under CERCLA to assess the risk posed by the site using the Hazard Ranking System.

NMED recommends that the investigation include the following:

1. Sample sediments along drainages to characterize extent of Site-derived waste dispersion.
2. Investigate and characterize ground water impacts.

In addition NMED recommends the following actions be performed to address immediate threats to public health and the environment:

1. Remove waste with elevated radioactivity.
2. Plug open shafts.

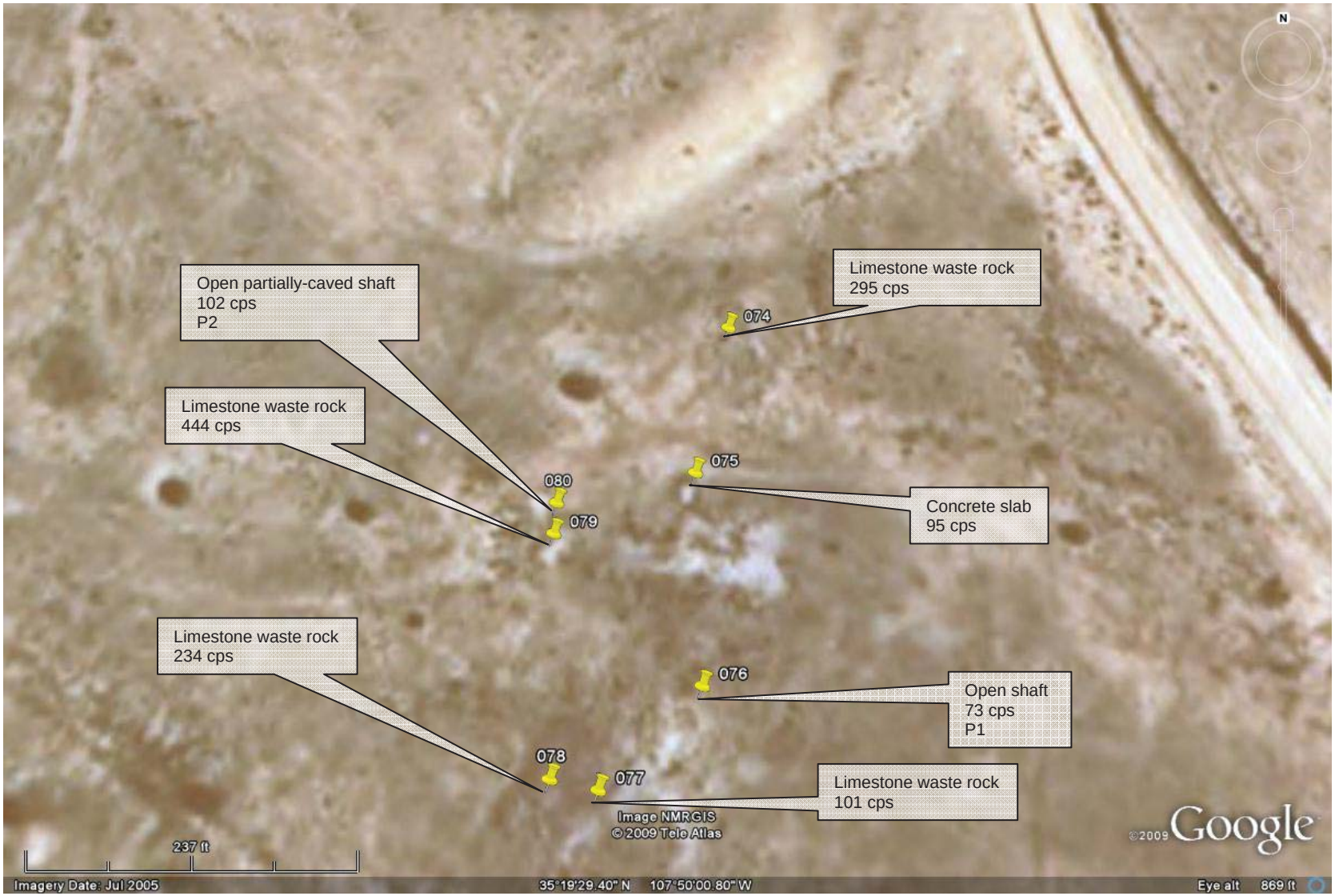


**Figure 1: Roundy Shaft—measurements taken on July 2, 2009.**

"Px" reference the location of photographs on pages following.


P1: Roundy Shaft mine open shaft


P2: Roundy Shaft Mine, open partially-caved shaft